

**Please delete the present Abstract of the Disclosure.**

**Please add the following new Abstract of the Disclosure:**

A magnetoresistance device is provided for improving thermal stability of a magnetoresistance element by preventing inter-diffusion between a conductor (such as a via and an interconnection) for connecting the magnetoresistance element to another element and layers constituting the magnetoresistance element. A magnetoresistance device is composed of a magnetoresistance element, a non-magnetic conductor providing electrical connection between said magnetoresistance element to another element, and a diffusion barrier structure disposed between the conductor and said magnetoresistance element, the magnetoresistance element including a free ferromagnetic layer having reversible spontaneous magnetization, a fixed ferromagnetic layer having fixed spontaneous magnetization, and a tunnel dielectric layer disposed between said free and fixed ferromagnetic layer.